Notice of Allowability	Application No. 09/723,356	Applicant(s) VICCI ET AL.	
	Examiner Clara Yang	Art Unit 2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on 24 January 2005 and the interview on 25 April 2005*.
2. ☒ The allowed claim(s) is/are *1-39*.
3. ☒ The drawings filed on *27 November 2000* are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
   1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 01/24/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

BRIAN ZIMMERMAN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gregory Hunt (Reg. No. 41,085) on 25 April 2005, during which an agreement was reached that the capacitors (i.e., reactive compensation elements) taught by Carter (US 2,166,750) fail to enable the cancellation of the dipole magnetic fields since the capacitors are employed to provide uniform current distribution, thereby improving the antenna's ability to uniformly broadcast horizontally polarized waves in all horizontal directions.

Claims 1, 14, 21, 24, 33, and 38 have been amended per the request of the applicant's representative as follows:

1. (Currently Amended) A magnetic current loop system adapted to produce strong near fields and weak far fields, the magnetic current loop system comprising:

(a) first and second magnetic current loops for generating a local magnetic field, the magnetic current loops being divided into k sections, k being an integer, each of the k sections having a series reactance at a frequency;

(b) k reactive compensation elements for controlling generation of the local magnetic field, each reactive compensation element being coupled to one of the k sections and having a reactance that substantially cancels the series reactance of each section at the frequency; and

(c) a current source coupled to the first and second magnetic current loops such that current flows in a first direction in the first magnetic current loop and in a second direction, opposite the first direction, in the second magnetic current loop, the current producing a strong magnetic field near the first and second magnetic current loops and substantially canceling dipole magnetic fields produced by the magnetic current first and second loops at a distance far from the first and second magnetic current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and thereby enabling the cancellation of the dipole magnetic fields</u>.

14. (Currently Amended) A reader for a magnetic-current-loop-based communication system, the reader comprising:

(a) first and second magnetic current loops for generating a local magnetic field, each being divided into n sections, n being an integer, each section having a series reactance, <u>the first and second magnetic current loops having a total of $2n$ sections;</u>

(b) $2n$ reactive compensation elements for controlling generation of the local magnetic field, one element being associated with each of the $2n$ sections, such that the reactive compensation elements substantially cancel the series reactance of each of the sections; and

(c) circuitry operatively associated with the first and second magnetic current loops for communicating with a device when the device is within a predetermined distance of the first and second magnetic current loops, wherein the circuitry includes a current source for driving the first and second magnetic current loops to produce a strong magnetic field near the first and second magnetic current loops and to substantially cancel dipole magnetic fields produced by the first and second magnetic current loops at distances far from the first and second magnetic current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and thereby enabling the cancellation of the dipole magnetic fields</u>.

21. (Currently Amended) A magnetic current loop system comprising:

(a) a plurality of magnetic current loops for generating a local magnetic field, each magnetic current loop being divided into n sections, n being an integer, each of the n sections having a series reactance at a frequency;

(b) n reactive compensation elements for controlling generation of the local magnetic field, the reactive compensation elements being respectively coupled to each of the n sections of each loop, each of the n reactive compensation elements having a reactance that substantially cancels the series reactance of the corresponding section at the frequency, thereby producing substantial current magnitude and phase uniformity along the magnetic current loop; and

(c) a current source coupled to the magnetic current loops for producing a current in the magnetic current loops, wherein the magnetic current loops are coupled to each other such that a strong magnetic field is produced near the magnetic current loops and such that dipole magnetic fields resulting from the current flowing through each loop cancel at distances far from the current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and thereby enabling the cancellation of the dipole magnetic fields</u>.

24. (Currently Amended) A magnetic current loop system comprising:

(a) n magnetic current loops for generating a local magnetic field, n being an integer, each of the n magnetic current loops being divided into sections, each section having a series reactance, the magnetic current loops being coupled to each other and magnetized in opposite directions to produce a strong magnetic field near the magnetic current loops and to substantially cancel a dipole magnetic field at distances far from the magnetic current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and enabling the cancellation of the dipole magnetic fields</u>; and

(b) reactive compensation elements respectively coupled to the sections for controlling generation of the local magnetic field, each of the reactive compensation elements having a reactance that substantially cancels the series reactance of the respective section.

33. (Currently Amended) A method for reactively compensating magnetic current loops, the method comprising:

(a) dividing first and second magnetic current loops into *k* sections, *k* being an integer, each of the *k* sections having a series reactance at a frequency;

(b) adding reactive compensation to each of the *k* sections such that the reactive compensation substantially cancels the series reactance of each of the *k* sections and controls generation of a local magnetic field by the magnetic current loops;

(c) driving the magnetic current loops with a current source having a frequency such that current flows in a first direction in the first magnetic current loop and in a second direction in the second magnetic current loop and producing a strong magnetic field near the magnetic current loops; and

(d) placing the first and second magnetic current loops in close proximity to each other to substantially cancel dipole magnetic fields produced by the magnetic current loops at distances far from the magnetic current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and thereby enabling the cancellation of the dipole magnetic fields</u>.

38. (Currently Amended) A method for reactively compensating a magnetic current loop, the method comprising:

(a) dividing each of first and second magnetic current loops into *k* sections, *k* being an integer, each of the *k* sections having a series reactance at a frequency;

(b) adding reactive compensation to each of the *k* sections such that the reactive compensation substantially cancels the series reactance of each of the *k* sections at the frequency, thereby making the amplitude and phase of a current in the loop at the frequency substantially uniform throughout the loop and thereby providing more precise control over generation of a magnetic field at the frequency; and

(c) coupling the magnetic current loops to each other and driving the magnetic current loops to produce a strong magnetic field near the magnetic current loops and to substantially cancel dipole magnetic fields produced by the magnetic current loops at distances far from the magnetic current loops, <u>the reactive compensation elements producing substantial uniformity in phase and magnitude of the current flowing through each loop and thereby enabling the cancellation of the dipole magnetic fields</u>.